Horse Creek/Pine River Sediment Remediation Project

- 2001 Consent Agreement with Total Petroleum called for a SEP to remediate selected areas of Horse Creek and/or the Pine River near Alma, MI
- Goal: to maximize positive environmental impacts within the fixed dollar amount allocated o the project

Horse Creek/Pine River Sediment Remediation Project

- Sediment remediation work plan, sediment characterization study, and characterization report all completed by 2002
- Evaluation of alternatives 11/2002
- Design – early 2003
- Implementation –2003
- Final Report

Horse Creek/Pine River Sediment Remediation Project

- Selection Criteria Used
- Technical: performance, reliability, feasibility, safety
- Environmental/human health
- Governmental and Local Concerns
- Cost

Horse Creek/Pine River Sediment Remediation Project

- Bid process:
- 8 firms contacted and asked to develop scopes of work and cost estimates based on sediment characterization data
- All asked to sample and bench test their preferred removal/dewatering approach
- Unlimited access to site provided

Horse Creek/Pine River Sediment Remediation Project

- Scope of Project:
- County Drain 52 (channelized ag drain)
- Horse Creek (County Drain 218)
- Combined length of 12,600 lineal feet
- 2.94 acre Marsh Area adjacent to HC
- 6.82 acre confluence with Pine River

Horse Creek/Pine River Sediment Remediation Project

- Sediment Volumes:
- 72,000 cubic yards total
- Drains 52/218: 4,600 yards
- Marsh: 6,600 yards
- Confluence: 32,600 yards
- 12 inch Overdredge: 28,200 yards

Horse Creek/Pine River Sediment Remediation Project

- Screening of Alternatives Process
- Containment in-situ
- Treatment in-situ
- Removal
- Both containment and treatment were screened out

Horse Creek/Pine River Sediment Remediation Project

- Removal Alternatives
- Excavation, including isolation and draining evaluated for Drains 52/218 and Marsh
- Mechanical Dredging of confluence
- Hydraulic Dredging of confluence with dewatering by filter press or geotube

Horse Creek/Pine River Sediment Remediation Project

- Costs:
- Excavation of Drains 52/218, Marsh and Hydraulic dredging of confluence with filter press dewatering, landfill disposal: $8.95M
- Same as above but with Geotube dewatering: $9.61M
- Timeframe: 210 days

Horse Creek/Pine River Sediment Remediation Project

- Selected Alternative:
- Excavation of Drains 52/218 and Marsh using isolation cells and landfill disposal
- Hydraulic dredging of confluence with shaker screens, hydrocyclones, polymer addition, filter press and landfill disposal